217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT

PERMITTEE

Exelon Generation Company, LLC
Attn: Mr. Terry Steinert
4300 Winfield Road
Warrenville, Illinois 60555

Application No.: 78090018
I.D. No.: 141820AAA
Applicant's Designation: BYRONFESOP
Date Received: December 10, 2001
Subject: Byron Generating Station
Date Issued: December 13, 2002
Expiration Date: December 13, 2007
Location: Byron Nuclear Power Station, 4450 North German Church Road, Byron, Ogle County

This Permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of six (6) large diesel engine generators (greater than 600 horsepower, each), various smaller diesel engines (used for electric generation or pumping water)*, two (2) auxiliary boilers (93.0 mmBtu/hr, each), one (1) gasoline storage and dispensing facility with vapor balance systems, one (1) Rad Waste Volume Reduction System (RWVRS), and various cooling towers as described in the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

* This permit does not address emergency engine maintained at the source by the Illinois Department of Nuclear Safety.

1a. This Federally Enforceable State Operating Permit (FESOP) is issued to limit the emissions of air pollutants from all the emission units combined, as listed in the above paragraph to less than major source thresholds, for example, less than 100 tons per year of nitrogen oxide (NO_x), as further described in Attachment A. As a result, the source is excluded from requirements to obtain a Clean Air Act Permit Program (CAAPP) permit.

b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.

2a. Total usage of distillate fuel oil for large engines (generators and other engines with a capacity greater than 600 horsepower each) shall not exceed 72,800 gallons per month and 364,000 gallons per year, based on AP-42 emission factors.

b. Total usage of distillate fuel oil for the small engines with a capacity of 600 horsepower each or smaller shall not exceed 8,000 gallons per month and 40,000 gallons per year, based on AP-42 emission factors.

c. Total usage of distillate fuel oil for the boilers shall not exceed 34,000 gallons per month and 100,000 gallons per year, based on AP-42 emission factors.

d. Operation of the Rad Waste Volume Reduction System (RWVRS) shall not exceed 200 hours per month and 1,512 hours per year, based on information provided in the permit application.

e. Annual throughput of gasoline through the gasoline storage tanks shall not exceed 50,000 gallons/year.

f. Compliance with annual limits shall be determined from a running total of twelve months of data.

3. Each gasoline storage tank shall be equipped and operated with a submerged loading pipe, pursuant to 35 IAC 215.583(a)(1).

4a. The cooling towers (two – natural draft counter flow and eight – induced draft counter flow cells) shall each be equipped, operated and maintained with drift eliminators or other comparable features designed to limit the loss of water droplets from the cooling towers to not more than 0.0005% for natural draft and 0.001% for induced draft counter flow cooling towers, respectively of the circulating water flow (0.000005 and 0.00001 drift).

b. The particulate matter (PM_{10}) emissions from two natural draft counter flow and eight induced draft counter flow cells cooling towers shall not exceed 36.6 tons/year and 2.3 tons/year, respectively. These limits are based on information in the application indicating a nominal emission rate of 8.36 lbs/hour and 0.52 lb/hour for natural draft and induced draft counter flow cooling towers operating at a design flow rate of 1,400,000 gallons/minute and 44,000 gallons/minute, respectively.

5. Emissions of volatile organic material (VOM) from storage and handling of gasoline shall not exceed 2.0 ton per year. This limit is based on standard USEPA emission factors for breathing and working losses and information provided in the permit application.

6. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not equal or exceed 10 tons per year of any single HAP or 25 tons per year of any combination of such HAPs, or such lesser quantity as USEPA may establish in rule which would require the Permittee to obtain a CAAPP permit from the Illinois EPA. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.

7. At all times, the Permittee shall to the extent practicable, maintain and operate the above referenced emission sources, in a manner consistent with good air pollution control practice for minimizing emissions.

8a. Organic liquid by-products or waste materials shall not be used in these fuel combustion emission sources without written approval from the Illinois EPA.

b. At the above location, the Permittee shall not keep, store, or utilize:

i. Distillate fuel oil (Grades No. 1 and 2) with a sulfur content greater than the larger of the following two values:

A. 0.28 weight percent, or

B. The wt. percent given by the formula: Maximum wt. percent sulfur = (0.000015) x (Gross heating value of oil, Btu/lb).

c. The Illinois EPA shall be allowed to sample all fuels stored at the above location.

9. The Permittee shall maintain records of the following items:

a. Fuel usage for the large engines (generators and other engines with a capacity greater than 600 horsepower), for the other engines and for the boilers, (gallons/month and gallons/year, for each of these groups of units).

b. Documentation for sulfur content of fuel oil, e.g., analysis results of representative fuel samples or copies of fuel supplier certifications.

c. The Permittee shall maintain the following records for each gasoline storage dispensing facility, including associated gasoline storage tanks:

i. A logbook or other record that identifies each shipment of gasoline added to each tank, with date and amount;

ii. A logbook or other record of each inspection of the tanks and dispensing facilities to verify proper operation, with date and responsible individual;

iii. The combined gasoline throughput of the storage tanks, (gallons/month and gallons/year).

d. The Permittee shall keep the following records for cooling towers with supporting data.

i. The following reference information for the cooling towers, which shall be updated in the event of significant changes to the operation of the tower:

A. Cooling water flow rate (gallons/hour) based on representative operation of the cooling towers; and

B. Cooling water total dissolved solids (TDS) content, based on representative sampling of water discharge.

ii. The following operating records for each tower:

A. Operation of cooling towers (e.g., log for number of towers operating each hour).

B. Total operation of cooling towers (e.g., hours/month); and

C. Emissions of particulate matter (tons/year), with supporting calculations.

10. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least three years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA request for records during the course of a source inspection.

11a. The Permittee shall submit an Annual Emissions Statement to the Agency by May 1st of each year. This report shall include the fuel oil consumption by the large diesel engines (generators and pumps greater than 600 horsepower), the other engines, and the boilers. If there has been no exceedance during the prior year, the Annual Emissions Statement shall include a statement to that effect.

b. If there is an exceedance of the requirements of this permit, as determined by the records required by this permit or by other means, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedance. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, a description of the exceedance and efforts to reduce emissions and future occurrences.

12. Two (2) copies of required reports and notifications concerning equipment operation or repairs, performance testing or a continuous monitoring system shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

Telephone: 217/782-5811 Facsimile: 217/782-6348

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
5415 North University
Peoria, Illinois 61614

Telephone: 309/693-5461 Facsimile: 309/693-5467

If you have any questions concerning this permit, please call Youra Benofamil at 217/782-2113.

Donald E. Sutton, P. E.
Manager, Permit Section
Division of Air Pollution Control

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cc: Illinois EPA, FOS Region 2
Illinois EPA, Compliance Section
Lotus Notes, USEPA

I.D. No.: 141820AAA
Application No.: 78090018
Facility: Byron Nuclear Power Station

Attachment A

This attachment provides a summary of the maximum emissions from the source operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario that results in maximum emissions from this source. This is handling 504,000 gallons of distillate fuel oil. The resulting maximum emissions are well below the levels, e.g., 100 tons per year of NO_x, at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled, and control measures are more effective than required in this permit.

1. Large Diesel Engines (Generators and other engines with a capacity greater than 600 horsepower each):

   Limit on Total Fuel Usage: 364,000 Gallons/Year

Pollutant	Emission Rate (Lb/mmBtu)	Emissions (Tons/Yr)
NO_x	3.2	81.52
CO	0.85	21.68
SO_2	1.01 * 0.28 = 0.2828	7.20
VOM	0.09	2.28
PM	0.0697	1.78

   These emissions reflect, AP-42 emission factors for internal combustion units, and a conversion factor of 140,000 Btu per gallon of distillate oil.

2. Small Diesel Engines with a capacity of 600 horsepower each or smaller:

   Limit on Total Fuel Usage: 40,000 Gallons/Year

Pollutant	Emission Rate (Lb/mmBtu)	Emissions (Tons/Yr)
NO_x	4.41	12.36
CO	0.95	2.68
SO_2	0.29	0.80
VOM	0.36	1.00
PM	0.31	0.88

   These emissions reflect AP-42 emission factors for internal combustion units and a conversion factor of 140,000 Btu per gallon of distillate oil.

3. Two Boilers:

Limit on Total Fuel Usage: 100,000 Gallons/Year

Pollutant	Emission Rate (Lb/1,000 Gal)	Emissions (Tons/Yr)
NO_x	20.0	1.00
CO	5.0	0.26
SO_2	142 * 0.28 = 39.76	1.98
VOM	0.2	0.01
PM	2.0	0.10

These emissions reflect, AP-42 emission factors for distillate fuel oil fired boilers.

4. Rad Waste Volume Reduction System (RWVRS):

Limit on hours of Operation: 1,512 Hours/Year

Pollutant	Emission Rate (Lb/Hr)	Emissions (Tons/Yr)
NO_x	0.131	0.10
CO	0.980	0.75
SO_2	0.200	0.16
VOM	0.310	0.25

These emissions reflect, emission factors supplied by the Permittee which are based on tests.

5. Emissions from all gasoline storage and handling, in total:

Limit on Gasoline Throughput: 50,000 gallons year
2.0 ton VOM per year

This reflects standard USEPA emission factors from Compilation of Air Pollutant Emission Factors, AP-42 for breathing and working losses.

6. Cooling Towers:

	Pollutant	Emissions (Tons/Year)
Two Natural Draft Counter Flow	PM/PM_{10}	36.6
Eight Induced Draft Counter Flow Cells	PM/PM_{10}	2.30

7. Propane-Fired Engine Generators:

Limit on Total Fuel Usage: 3,000 Gallons/Year

Pollutant	Emission Rate (Lb/1000 Gallons)	Emissions (Tons/Year)
NO_x	14	0.02

YB:psj